

A M A T E U R R A D I O

JUNE 1964



Vol. 32, No. 6



2/-

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|-----|---------------|------------------|-----------------|-----------------|------------------|-----------------|
| 1A3 | 2/6 10 s a £1 | 2X2 2/6 5 s a £1 | GC8 10/- | 68KGT2 20/- | 12BE8 7/6 s a £1 | EC33 7/6 |
| 1A5 | 5/6 10 s a £1 | 3A5 10/- | GCMS 10/- | 68LWGT 12/6 | 12C8 3/6 s a £1 | EP30 2/- 3a £1 |
| 1C7 | 7/6 7 a £1 | 384 10/- | SCW4 25/- | 68NGT 10/- | 12H6 3/6 7 a £1 | EP30 (VGR1) |
| 1D8 | 7/6 3 a £1 | 385 10/- | 32MG 7/6 | 68NGT 22/- | 88 10/- | EP30 (VGR1) |
| 1E5 | 7/6 3 a £1 | 5U4GD 14/6 | 6F8 3/6 s a £1 | 68N2 7/6 3 a £1 | 12SA7GT 10/- | EP70 3/- 5 a £1 |
| 1E6 | 7/6 3 a £1 | 5V4G 17/6 | GGG6 7/6 s a £1 | EW8 17/- | 12K7 3/6 s a £1 | EP72 3/- 5 a £1 |
| 1E7 | 5/6 5 a £1 | 5Y8GT 15/6 | GGG6 20/- | 6V4 11/6 | 12K62 3/6 s a £1 | EP72 3/- 5 a £1 |
| 1E8 | 5/6 5 a £1 | 6A5 10/- | GGG6 7/6 3 a £1 | 5V4 3/6 | 12K6A 2/6 s a £1 | EP72 3/- 5 a £1 |
| 1K1 | 5/6 5 a £1 | 6AB2 10/- | 6J5GT 10/- | 5V8GT 10/- | 12K7 3/6 s a £1 | EP72 3/- 5 a £1 |
| 1K7 | 5/6 5 a £1 | 6AC7 3/6 s a £1 | 6J6 10/- | 6X3 10/- | 19 1/6 13 a £1 | EL41 10/- |
| 1L4 | 5/6 5 a £1 | 6AD7 3/6 s a £1 | 6K1 3/6 s a £1 | 6Y8 3/6 s a £1 | 20 1/6 18 a £1 | EL41 10/- |
| 1L5 | 5/6 5 a £1 | 6AG7 3/6 s a £1 | 6K2 3/6 s a £1 | 6ZGT 11/- | 27 1/6 11 a £1 | EL41 10/- |
| | 5/6 5 a £1 | 6AJ9 7/6 3 a £1 | 6L4 Metal 17/6 | 7C3 3/6 s a £1 | 27 1/6 11 a £1 | EL41 10/- |
| | 5/6 5 a £1 | 6AK5 10/- | 6L6GT 15/- | 7C7 3/6 s a £1 | 28 3/6 7 a £1 | EL41 10/- |
| 1M5 | 5/6 5 a £1 | 6AL3 14/- | 6M7 7/6 s a £1 | 7D1 7/6 s a £1 | 217A 7/6 3 a £1 | EL41 10/- |
| 1M6 | 5/6 5 a £1 | 6AL5 14/- | 6M7 7/6 s a £1 | 7E1 7/6 s a £1 | | EL41 10/- |
| 1S2 | 10/- | 6AN8 (EP19) 10/- | 6N7 7/6 s a £1 | 7F7 2/6 10 a £1 | | EL41 10/- |
| 1S5 | 10/- | 6ANTGT 20/- | 6N7 7/6 s a £1 | 7G1 7/6 s a £1 | | EL41 10/- |
| 1T1 | 10/- | 6B5 7/6 3 a £1 | 6N7 7/6 s a £1 | 7H1 7/6 s a £1 | | EL41 10/- |
| 2A5 | 7/6 3 a £1 | 6BE5 Metal 17/6 | 6N7 7/6 s a £1 | 7I1 7/6 s a £1 | | EL41 10/- |
| 2A8 | 7/6 3 a £1 | 6BE5 17/- | 6N7 7/6 s a £1 | 7J1 7/6 s a £1 | | EL41 10/- |
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| 2R3 | 15/- | 6C4 3/6 s a £1 | 6N | | | |

[illegible]

Contains: one 6" c.r. tube VCRX263, three CV327/EF52, five CV858/ECC91/6J6, two CV140/EB91/6AL5, and one 6V6GT. Brand new condition. £50/0/0.
5/- delivery charge to railhead.



Price only £3, post paid.

Roblan, 10-415 pF., one-gang ... 25/-
Roblan, 10-415 pF., two-gang ... 32/-
Roblan, 10-415 pF., three-gang ... 40/-
10 to 365 pF. Ideal for Crystal Set.
10/- each.

Packing and Postage 2/-

Freq. Range: 2 to 8 Mc. 15 Valves: six 6U7G, two 6J8G, two 6G8G, one 807, three 6V6G, one 6H6GT, one 9072. Complete with 12 volt Genemotor Power Supply, Aerial Variometer, and cables. As new condition. **Price £10.**
5/- Packing Charge.

| | | |
|-------------------------|---------------------|-----|
| Belling & Lee Plugs | 0000 0000 0000 0000 | 4/- |
| Belling & Lee Sockets | 0000 0000 0000 | 3/6 |
| or 7/6 pair. | | |
| Belling & Lee Joiner | 0000 0000 0000 0000 | 4/- |
| Packing and Postage 5d. | | |

50 ohm, UR67, 3/8" diam., in 25 yd.
Rolls 25/-; or 1/6 yard.
71 ohm UR32, 3/16" diam., in 100 yard
Rolls £7/10/0.
72 ohm UR70, 3/16" diam., in 27 yd.
Rolls 30/-; or 1/6 yard.
72 ohm, 3/16", 35 feet 10/-.
100 ohm, 3/8" 2/- yd., £8/15/0 100 yds.
Packing and Postage 7/6

| F. | V. | P./c | μF. | V. | P./c |
|----|-----|------|-----------------|-----|------|
| 5 | 12 | 3/— | 25 | 12 | 3/6 |
| 8 | 6 | 3/— | 25 | 25 | 4/— |
| 8 | 12 | 3/— | *32 | 350 | 4/6 |
| 8 | 300 | 6/— | *32 | 300 | 4/6 |
| 8 | 600 | 6/— | 32 | 850 | 8/6 |
| 10 | 12 | 3/6 | 50 | 12 | 3/6 |
| 10 | 3 | 3/— | 64 | 18 | 4/— |
| 16 | 300 | 6/— | 100 | 12 | 4/— |
| 16 | 600 | 8/6 | 100 | 6 | 4/— |
| 24 | 350 | 8/— | 1000 | 6 | 9/6 |
| 25 | 50 | 3/— | 1000 | 12 | 13/— |
| 25 | 3 | 3/— | 1000 | 18 | 15/7 |
| 25 | 6 | 3/3 | * Disposal type | | |

Packing and Postage 8d

Complete with earphones and instructions, 22/6. Aerial wire to suit, 4d. yd.
Packing and Postage 2/-

Crystal locked 150 Mc. 12 Valves: two 3S4, four 1T4, one 1L4, one 1S5, four 3V4, one DF62 and 12 Mc. Vacuum Xtal. Complete with 12 volt D.C. Power Supply, suitable for conversion to 146 Mc. New condition. **Price 17/10/6.**

Ratio 8 to 1 reduction, $1\frac{1}{2}$ inch diam.,
scaled 0-10. **Price £1** inc. tax.
Packing and Postage 11d.

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"AMATEUR RADIO"

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OUR COVER

Herbert Hoover, Jr. (right), Pres-
ident of the American Radio Relay
League, tests the sending and re-
ceiving equipment housed in a Ham
shack at the New York World's Fair
while John Huntoon, A.R.R.L. Gen-
eral Manager, looks on.

(Photo courtesy Coca-Cola Company.)

FEDERAL COMMENT

★

AMATEUR SATELLITES

"In accordance with actions taken at the Extraordinary Administra-
tive Radio Conference on Space Communications of the I.T.U. held in
Geneva last year, and in agreement with the conversations between
I.A.R.U. representatives thereto, the A.R.R.L. cordially invites Member
Societies to participate more fully in a Radio Amateur space commu-
nications programme utilising satellites created by Amateurs."

In the few words of this injunction by the A.R.R.L. to Member
Societies is contained a wealth of meaning. These words indicate in a
non-flamboyant way, the extent of experimentation and progress made
by Radio Amateurs in little more than 50 years of existence. The most
far-seeing Amateur soothsayer around 1914 could never have envisaged
that in such a short time, Amateurs would be "creating" and commu-
nicating via their own satellite. Such, however, is progress.

It has been proven that even the most far-seeing scientists and
technologists at any particular time can cast predictions with only about
66% accuracy of what will actually be the case in the future. That is to
say, if an aeronautical specialist today predicts that in 10 years time
aircraft will attain a speed of mach 8, when the time arrives they will
actually be flying at about mach 9. If we follow this analogy into the
Radio Amateur field, we can assume similar seeming-impossibilities in
the communications field.

Is it not therefore possible that in not too many years time, all v.h.f.
and u.h.f. communication will be just as easy by Amateur satellites as
by the use of the ionosphere? Let us hasten to say that no such prediction
will ever be fact without a great deal of endeavour. It is this endeavour
of the Radio Amateur that has kept him ahead of commercial develop-
ments in a number of communication fields. The opportunity is now here
for Amateurs to experiment and develop a new system of DX commu-
nication in the bands where such is not consistently possible by normal
means.

The launching of the Oscar repeater satellite (Oscar III.) is expected
in about September this year. The A.R.R.L. anticipate forwarding tech-
nical data on this unique experiment to the W.I.A. shortly, which in turn
will be passed on to the members via this journal. As this undertaking
will involve a great deal of time and money by its promoters, we hope
many of our members will take this opportunity and assist by using the
facilities presented.

We agree with the A.R.R.L. that the expansion of self-education of
the Amateur and the study of this new field of communication are essential
to keep abreast of the state of the art. By co-operation in this venture,
we will undoubtedly help in the promotion of bigger and more exotic
Amateur satellites which may well become our stable means of international
communication in the not-so-distant future. We hope to hear many calls
of CQ DX Oscar before the end of the year on 144 Mc.

FEDERAL EXECUTIVE, W.I.A.

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|--------------------------------|--|-------------------------|-------------------------|-------------------------|-----------------------|-----------------------|----------------------|------------------------------------|-------------------------------|
| AC125 | General purpose audio pre-amplifier and driver of the p-n-p alloy junction type | 32 | 32 | 10 | 100 | 5 | 90* | 500** | TO-1 |
| AC126 | High-gain audio pre-amplifier and driver of the p-n-p alloy junction type | 32 | 32 | 10 | 100 | 5 | 90* | 500** | TO-1 |
| AC127 | n-p-n/p-n-p germanium alloy junction transistors for use in complementary Class 'B' output stages | +32 | +32 | +10 | +200 | +10 | 90* | 280** | TO-1 |
| AC132 | | 32 | 32 | 10 | 200 | 10 | 90* | 500** | TO-1 |
| AC128 2-AC128 | High-gain germanium alloy junction transistor of the p-n-p type designed for use in Class 'B' output stages | 32 | 32 | 10 | 1A | 20 | 90* | 550** | TO-1 |
| AD140 2-AD140 | Germanium junction power transistor of the p-n-p alloy type intended for use as an amplifier in the output stages of receivers and amplifiers operating from either battery or AC mains. | 55 | 55 | 10 | 3-0A | 500 | 100* | 35W** | TO-3 |
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| AF115N | Germanium transistor of the p-n-p alloy diffused type designed for use up to 100Mc/s as mixer-oscillator and for use as RF amplifier up to 27Mc/s | 32 | 32 | — | 10 | 1 | 75 | 50*** | TO-44 |
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| OC74N 2-OC74N | High-gain germanium alloy junction transistor of the p-n-p type designed for use in Class 'B' output stages | 20 | 20 | 6 | 300 | — | 90* | 550** | TO-1 |

*** Tamb = 45°C

** with suitable heat sink

* 200 hours operation

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M 127

HOTTING UP THE HE-30 RECEIVER

C. P. SINGLETON,* VK4UX

A FEW months ago, I became the owner of one of the above receivers and after trying it out for a few weeks, I came to the conclusion that I either had a "dud" receiver or else that I was being super critical. For general listening, the receiver performed quite well but I thought it was lacking something. Summarising the points that I didn't like about it, I came to these conclusions:

- (a) Frequency shift of the h.f. oscillator, whenever the i.f. gain control was varied, especially when using the receiver for c.w. or s.s.b. reception. This was due to the varying voltage on the oscillator, caused by the varying voltage drop across the filter resistor R23 whenever the bias on the i.f. stage was varied.
- (b) Very unsatisfactory a.v.c. action. The a.v.c., as fitted, is simple a.v.c. and naturally will work on any signal, no matter how weak, thus reducing the sensitivity of the receiver with weak signals.
- (c) The noise limiter could be improved.
- (d) Impossible to get "single signal effect" on c.w. due to unwanted leakage from the b.f.o.
- (e) Very poor image rejection on 14 Mc.

Since curing the above faults in my receiver, I have spoken to quite a few chaps who are experiencing the same trouble and this has prompted me to write this article, and consequently save wear and tear on my "mill", typing out condensed versions of the above modifications.

The receiver is well made and easy to get at, and the above faults can be corrected in a few hours. With that, I'll cut the chatter, and get down to business, so grab your soldering iron, etc., and we'll get to work.

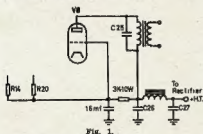


Fig. 1.

If you examine the circuit you will notice that the h.t. available to the receiver is only 115 volts. Nothing wrong with this, except that it is a bit difficult to get a VR tube to strike at this voltage. So the first thing to do is to get some more volts. It is also necessary to take into consideration the rated output of the power supply and not to exceed it. The h.t. drain

of the modified receiver is within a few mills. of what it was originally. So assuming you have sent the wife out for the day, and have commandeered the kitchen table, let's go . . .

MODIFICATIONS

- (1) Remove resistor R23 and substitute it with a 100 mA. filter choke. This can be fitted at the right of the condenser C26-27. The choke that I used was quite small and fitted in with room to spare.
- (2) Remove the h.t. connection from the receiver side of the filter choke, and fit a 3,000 ohm 10 watt resistor, between the choke and the h.t. line, also change the h.t. supply to the 6AQ5 plate, from C27 to C26. Then disconnect the lead going from the UY socket to h.t. The above modification will give approx. 200 volts to the 6AQ5 plate and approx. 115 volts to the 6AQ5 screen and 6AV6 (V7). See Fig. 1.

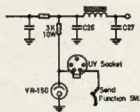


Fig. 2.

- (3) Disconnect the h.t. plate supply at point "B" (r.f. stage), decouple it right at point "B" with 1,000 ohms and 0.05 μ F. and reconnect it to the set side of the filter choke. Also do the same with the mixer plate supply (V2). This tube is already decoupled, but as the decoupling condenser is also the screen by-pass of V2, install another 0.05 μ F. at the screen of V2. That looks after the plate supply of the mixer and r.f. stage.

- (4) Disconnect the screen grid lead of V2 (mixer) from where it ties onto the first i.f. and reconnect it to the lead going to Ree. on the function switch. The screen grids of both V1 and V2, together with the h.t. to the h.f. oscillator, are now tied together, and go to the Ree. point on the function switch.

- (5) Now to fit a voltage regulator tube. Connect a 3,000 ohm 10 watt resistor between the terminal on the UY socket that was originally h.t. (previously disconnected) and C26. On the UY socket side of the resistor, fit a VR105, or equivalent between this point and earth. The VR tube will fit just in front of the power transformer. This now gives a regulated voltage of 105 volts to the screens of the r.f. and mixer stages, and also the h.f. oscillator. As the "Q" multiplier is also controlled from this switch, it will also have a regulated supply. See Fig. 2.

- (6) Change the bias resistor of V1 to 68 ohms. You will notice that I haven't altered the i.f. channel. Approx. 115 volts is available to the plates and screens of the i.f. stages and playing around with the plate and screen voltages would upset the bias resistor values, and a certain amount of mucking about would have to be carried out to get the "S" meter to read correctly. Anyway, the i.f. stages work quite well with the original voltage values, so there is no point in altering it.

- (7) Delayed a.v.c. is a must on a good communications receiver, and the circuit used is quite straight forward. You will notice that the signal for the a.v.c. diode is taken from the plate of V6. This reduces the damping on the i.f. secondary, which would occur if the a.v.c. signal was taken from there. See Fig. 3.

- (8) The noise limiter I used is a very well known one and easily installed. But if you do not want to go to the bother of fitting it, an ordinary diode such as the 1N34 type of thing, connected between the 6AQ5 grid and ground, via the a.n.l. switch, will give results as good as the original.

- (9) Getting the b.f.o. to operate better is quite easy. With the set upside down, and the dial towards you you will see a lead going from a ceramic condenser (C9) to the switch on the back of the selectivity control. Remove this lead and substitute for it a piece of co-axial cable. This will stop the unwanted leakage to other parts of the receiver and make s.s.b. a lot easier to resolve.

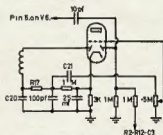


Fig. 3.

- (10) Getting rid of images can be done in a variety of ways. I took the easy way out and made up a small tuner of two circuits. One parallel and one series, which are closely coupled. The series circuit is connected directly across the receiver aerial terminals. Remembering that a series tuned circuit has low impedance to the frequency to which it is tuned, and high impedance to all others, and that a parallel tuned circuit is just the opposite, you will see how it works. Tune the receiver to the unwanted image, and then reject it with the series circuit. Peak the parallel circuit to the wanted signal. A pre-selector would do a better job I suppose, but it would mean switching

(Continued on Page 5)

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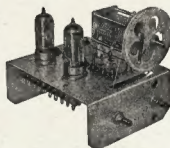
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P. E. LINDEN,* VK3BX

THIS little transmitter is what it was designed to be—the simplest possible combination of components from the junk box which would put out a mobile/portable a.m. signal on 1.9, 3.5 and 7 Mc.

For the sake of simplicity, and because it was designed primarily for use on the 1825 Kc. net frequency, a v.f.o. was not included. All valves and components used are readily available.

Nothing original is claimed about the circuit except for the output tank coil, which is wound on a ferrite toroid, giving a number of advantages discussed later on.

The crystal oscillator uses a "Modified Pierce" circuit, with the crystal connected between the control grid and screen grid of the 12BY7 pentode. The oscillator is thus electron coupled to the plate circuit which is untuned, with an r.f. choke as the plate load. The 15 pF. and 47 pF. capacitors from the grid and screen to earth are necessary to ensure reliable starting of the crystal at 1825 Kc., and also to provide the correct input capacitance.

The r.f. output from the 12BY7 plate is capacitively coupled to the grid of the 6BQ5, and adequate drive is obtained on all three bands. The 6BQ5 grid current ranges between 2 and 3 mA.

The one possible original feature of the transmitter is the output tank coil, which is wound on a Ducon Q2 toroid, with a surprising reduction in number of turns, as will be seen from the circuit. Only 22 turns were required to resonate with 300 pF. at 1825 Kc.

* 1 Bishop Court, Mt. Waverley, Vic.



Front panel, left to right. Top: receiver power output, 6-12 volt heater switch, coax. output to receiver, coax. output to antenna. Centre: power input plug, plate meter, bandswitch. Bottom: microphone jack, crystal socket, final plate tuning, antenna loading.

The winding is tapped at 7 turns and 13 turns up from the aerial end for 3.5 Mc. and 7 Mc. respectively. These turns give the correct inductance to resonate with the optimum tank circuit capacitance, obtained from the Abac in the R.S.G.B. Handbook. The correct dynamic load impedance is thus presented to the 6BG6 on all bands.

A two-pole five-position bandswitch is used, and the first and third positions switch in additional fixed values of loading inductance of 1.5 and 3.5 Mc. Note that the bandswitch does not progressively short out the coil turns, as is common practice with an air wound coil.

With the values shown, the pi-coupler will match to a wide range of aerial impedances on all bands.

The modulator is again as simple as possible, consistent with good audio quality. A 12AT7 twin triode operates in cascade as a microphone amplifier and voltage amplifier to drive a 6BQ5 as a class A modulator. A 10,000 ohm plate-to-plate speaker transformer is used as a modulation transformer. With a 1:1 ratio, the 6250 ohm load of the final is fairly closely matched to the 7,000 ohm load impedance required by the class A 6BQ5 modulator.

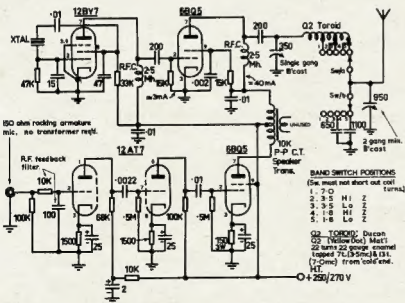
The microphone used is a rocking armature insert obtained from disposals.

Resistance values used throughout the modulator section were selected to give maximum gain and minimum distortion. Full modulation is obtained with the microphone feeding directly into the first grid without a microphone transformer. No gain control was provided, as 100 per cent. modulation was achieved (with excellent quality) when speaking in an ordinary voice close to the microphone.

Results with this little transmitter have been really gratifying. On 1825 Kc., with a 200 ft. long wire antenna, and a good earth, R5 S5 signals have been received in all adjacent States at night, with S9 signals throughout the metropolitan area.

During the day, when operating portable from Phillip Island, from a generator supply and a 100 ft. antenna, S7 signals were received in Melbourne, a distance of about 40 miles airline.

On 3.5 and 7 Mc. interstate contacts are easily made with reasonable band conditions. ●



HOTTING UP THE HE-30 RX

(Continued from Page 3)

it in or out, or switching coils, whereas with this gadget, there is no need to remove it or alter its tuning when going from 14 Mc. to 7 or 3.5 Mc.

You will notice from the modifications that I have made no provision for switching off the h.t. to the r.f. and mixer plates. There isn't any necessity to do this as with no screen voltage on these tubes the set is completely dead.

This completes the modifications. The receiver has very good selectivity on a.m. when using the "Q" multiplier, but as this stage also functions as a b.f.o., the selectivity can be improved as far as s.s.b. and c.w. are concerned. Some time in the future I intend fitting a product detector and another b.f.o. and then the "Q" multiplier can be used on s.s.b. Although not mentioned in detail in the instruction book, the "Q" multiplier can be used to reject an unwanted signal. ●

LIKE NEW MIXER CIRCUIT IN THE BC348

P. D. WILLIAMS,* VK3IZ

REVIEWS of new motor cars always look impressive, but no one seems inclined to review them with 12 months' work behind them. Perhaps the result of such a test would be favourable. There is certainly one electronic article that lives up to the claims made by the authors, at least as far as this writer is concerned.

In "Amateur Radio" for June 1962 an article titled the "Like New Mixer Circuit" was reprinted from "73" Magazine. Investigation seemed to indicate that there were virtues to the idea and a decision was made to attack a BC348Q receiver to see whether the authors' claims were vindicated.

A new bracket to take valve sockets for the 12AT7 and 12AU7 can follow the same shape as the old one and then quite a few of the components can be installed before the bracket is attached to the oscillator box using self tapping screws.

As the faint-hearted have weakened at the thought of what might lie ahead, a blow by blow description is not given of what component goes where. Since there is little space to fit everything

150v. on the plate of the first section of the 12AT7.

There appears little more remains to be said—the circuit performed well from the first switch-on and after a slight realignment, a period of critical listening could not fault the circuit in any way.

To those owners of BC348 E, M, P, etc., using a 6J7 as a mixer and a 6C5 as an oscillator, the problem may be a little easier as there would be little

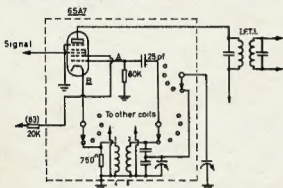


Fig. 1. Original OSC-MIXER circuit BC-348Q (simplified)

Owners of BC348 receivers of any model having a good fundamental receiver, but leaving the problem of selectivity aside, all suffer from the one complaint—a noisy mixer, which in the writer's 348Q was a 6SA7.

It is believed that the justification for this brief note is the number of BC-348s still in use by a large number of Amateurs and S.W.'s, and also because the principles can be applied to any receiver currently in use.

To work, then, after studying the before and after schematics. You will notice that the "Like New Mixer Circuit" is unaltered but a version of a suitable oscillator and cathode follower is shown. The arrangement is simple and output is reasonably constant—probably due to a slight degeneration inherent in having an r.f. potential at the cathode.

In addition, the signal is not taken from the tank circuit of the oscillator which improves isolation somewhat.

An inspection of the oscillator section of the 348Q shows that there is little space for two tubes, but you can get the 12AU7 and 12AT7 in there side by side and in the same relative position as that originally occupied by the 6SA7. Getting the oscillator coil box out presents little difficulty and with the side cover off the socket and bracket holding the 6SA7 tube can be removed.

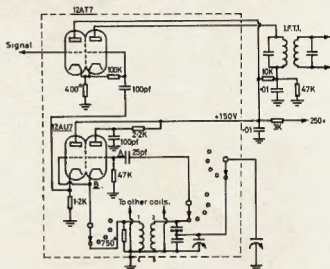


Fig. 2. Modified MIXER circuit.

it is quite in order to use the phrase —placement of components is not critical—as there will not be long leads anywhere! The simplified and modified schematics show numbered coil and lettered portions of the circuit where the old and new wiring are connected.

Resistors used in the high tension department are mounted externally to the coil box, but little difficulty was found in placing them neatly on the chassis. Values given were suitable for this installation, but as the author of the original article said, some fiddling with values may be necessary to get

point in reconstructing the oscillator circuit. However, no matter what receiver you have, the principle remains the same and the writer has heard of satisfactory conversions on AR7s and others.

The only limiting factor to good listening is the noise level on the bands of late but don't let this dissuade you.

NEW HEATER RATINGS FOR 6AN7 AND 6BH5

The frequency changer 6AN7/ECH80 and the 6BH5/EP81 variable μ r.f. pentode were previously manufactured with a heater current of 225 mA. and 200 mA. respectively.

They are now being manufactured with a new heater rating of 6.3v. at 300 mA., included in the Mullard Preferred Range and, to indicate this change, their type numbers will now be known as 6AN7A and 6BH5A.

In most applications the respective increase in heater ratings may be ignored so far as the mains transformer is concerned. Where the 6AN7A or 6BH5A are used in a series heater string arrangement, shunt resistors may be dispensed with.

—Reprinted from "Mullard Outlook," Australian Edition, Nov.-Dec., 1963.

AUST. V.H.F./U.H.F. RECORDS

As at April 1964

| |
|--|
| 50 Mc.: VK3ALZ-JKEFU, 1/5/59, 8438 miles. |
| 144 Mc.: VK3ASZ/2-ZL3AQ, 31/12/61, 1342 miles. |
| 288 Mc. (withdrawn from the Amateur Service, 30/6/63): VK3ALZ-VKTLZ, 18/1/60, 262 miles. |
| 632 Mc. (Available to the Amateur Service from 1/1/64): No claims. |
| 576 Mc.: VKZDS/6-VKRLX/3, 18/12/62, 191.2 miles. |
| 1315 Mc.: VK3ZAC-VK3ZCF/2, 4/3/63, 68.8 miles. |
| 2300 Mc.: VK3XA-VK3ANW, 18/2/60, 8.0 miles. |
| 3300 Mc.: VK3GT/3ZGK/3-VK3ZDQ/3, 14/12/63, 63.5 miles. |

*"Pine Tree Lodge," Ingrams Rd., Research, Vle.

MAKING THE AR8 PERFORM

AL SHAWSMITH,* VK4SS

The AR8, by any imagination, could hardly be claimed to be a receiver pleasing to the eye. It sits squat and square; the front panel lower knobs are arranged in a disorderly manner, while the round vernier dials, situated near the top of the panel, stare out like two goitered eyes.

Electronically, in the raw state, it is no more appealing and quite unsuitable for Ham use without several modifications. However, if one can stand its appearance, it can be improved to perform like a decent receiver.

The main drawbacks with the AR8 are: (a) no bandspread, (b) poor r.f. gain, (c) no i.f. selectivity, and (d) poor audio output.

BANDSPREADING

A good look at the tuning arrangement showed that bandspreading would not be a difficult job. To do this, it is necessary to scrap the i.f. section of the r.f. assembly, retaining only the three-gang tuning condenser, which can be left as is, but is best if all variable plates except two are removed from each section. Bandspreading is then accomplished as shown in Fig. 1.

R.F. GAIN

A 6SG7 was substituted for the original r.f. tube, but any low-noise tube will do. This modification caused the expected to happen . . . r.f. oscillation. A closer look showed that this was due mainly to the physical layout of the r.f. section in that the plate lead of the converter tube is approximately $\frac{1}{2}$ " from the grid connection of the 6SG7. This oscillation can be tamed in three ways:

- (1) Placing a small metal shield between the aforementioned socket connections.
- (2) Removal of socket and replacement so that the grid circuit of the r.f. tube is as isolated as possible.
- (3) Reducing the screen voltage on the r.f. tube.

The latter was chosen for two reasons. It was the simplest, and it allowed some controlled regeneration through the r.f.-mixer circuitry, which reduced imaging considerably, particularly with one r.f. stage on Band 3, i.e. 14 and 21 Mc.

First-tube bias could be increased to bring r.f. section out of oscillation, but this seriously impairs the signal-to-noise ratio of the 6SG7. The screen voltage was dropped until oscillation at resonance ceased; in this case, approximately 65-70 volts. This admittedly reduced the optimum signal-to-noise ratio a little, but with some regen. present, the r.f. bandwidth should be narrowed, increasing the signal-to-noise ratio. So what was lost on the roundabouts was gained on the swings. Couple the antenna fairly heavily to the r.f. coil.

I.F. SELECTIVITY

This was accomplished to near s.s. selectivity (approx. S 7/8 to S 3/3) by the simple process of running a lead from the first i.f. across to the second i.f. (just loosely pushed into the top of the cans) until oscillation occurs with the i.f. gain control at full on and set on c.w. position.

Selectivity then is variable, i.e. the less i.f. gain, the greater the i.f. bandwidth. Here again the overall signal-to-noise ratio is improved by adding selectivity because the overall bandwidth is reduced.

It is said that regeneration introduced like this causes instability, as it varies with strong and weak signals. With the AR8 this arrangement worked perfectly, the regeneration being constant over a large section of each Ham band.

L/HAND GANG REDUCED TO 2 PLATES PER SECTION

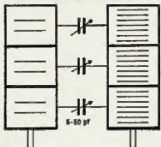


Fig. 1.—Method of Bandspreading.

Varies the amount of bandspread by adjustment of 5-50 pF. trimmers.

AUDIO AND OTHER ITEMS

This modification is purely a conventional one, i.e. the voltage amplifier is replaced by a 6V6 or other pentode using a suitable output transformer to match the speaker or phones.

The chain drive should be removed from the potentiometers and an extended shaft on the i.f. pot. brought through the front panel. This will then allow separate i.f. and audio control. An r.f. gain control (10K w.w. pot.) can be mounted handy to the r.f. tube socket, on the front panel. For c.w. reception, it is best left full on, and for s.s.b. reduced to the most suitable position.

Also an extra heavy audio by-pass condenser on the 6V6 plate (say 0.01 μ F. or greater) will allow cut-off of the higher frequencies and greatly reduce noise, QRN, etc. The amount of by-pass or cut-off is controlled by the tone control pot.

The tube filaments can be arranged to suit the power supplies (6v. or 12v.) and h.t. is about 250 volts.

These hints represent a no-cost simple approach, which will greatly improve performance. A more sophisticated approach would be to include a Qser in the i.f. circuitry and a band-pass filter

in the audio, and if the optimum in image ratio is wanted on Band 3, add another r.f. stage. However, we are dealing with an AR8 and the latter added electronics are up to the owner.

After the modifications have been done, a rough check on performance can be obtained by turning the receiver gain throughout, well up. It should still be fairly quiet and should spring to life with lots of QRN and signals when the aerial is coupled. If the set has excessive hiss and noise with no antenna, shut out the i.f. converter, and r.f. grids in turn to see which stage is contributing the noise.

There can be criticisms to the above modifications, but we are dealing with an AR8, not an AR88.

— . . . —

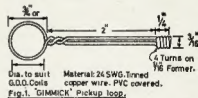
Another Little Gimmick

If you have ever wanted to grid dip 7-8 mm. coils in 7/8th inch cans, you have probably found difficulties to that operation.

Faced with this problem in an unknown piece of equipment, having several signal and i.f. frequencies, the pick-up coil shown in the sketch (Fig. 1) was dreamt up.

When tried, results proved to be giving good indications with the g.d.c. and as close as necessary to determine the resonant frequencies of the various coils.

The tight bunch of turns in the small pick-up coil will affect the frequency of the coil under test at v.h.f., but has little effect at frequencies lower than 20 Mc.



If any case, the v.h.f. indications are still accurate enough to be within the tuning range of either variable slug or condensers for final adjustment.

Variations of the pick-up "Gimmick" can be used to grid dip some of those coils in awkward places round a chassis.

It is suggested that a minimum of twisting of the link line should be made, just sufficient to hold the large loop in position.

If it is desired to grid dip i.f. coils, it is necessary to remove one slug to insert the pick-up loop so as to get sufficient coupling to the coil under test, unless they are single coil types.

— E. C. Manifold, VK3EM.

* 25 Whynot Street, West End, Brisbane, Qld.



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A SIMPLE SERIES-CATHODE MODULATOR

THE modulator circuit shown is capable of modulating any transmitter up to the maximum power limit, to about 80 per cent. with low distortion. It requires no power supply other than the heater power for the tubes, since it gets plate power from the cathode circuit of the r.f. amplifier with which it is used. Although the modulator output is connected in series with the r.f. amplifier cathode, the modulation is essentially of the grid-bias type. A useful characteristic of the system is that it does not require a fixed source of grid bias for the amplifier.

The speech amplifier uses a high- μ double triode to give two stages of resistance-coupled amplification. This gives sufficient gain for a crystal microphone. Resistors R3, R7 and R10, together with C1 and C3, provide de-

coupling and additional filtering of the d.c. obtained from the r.f. amplifier cathode circuit.

The output stage uses one or more 6Y6s in parallel; in determining the number of tubes required to modulate a particular amplifier, use one 6Y6 for each 200 mA. of amplifier plate current based on the operating conditions for c.w. work. The audio output voltage is developed across L1 and R11 in series. R11 may be omitted if the d.c. voltage between the screen and cathode of the 6Y6 does not exceed the rated value of 135 volts.

No special constructional precautions need be observed in laying out the amplifier. The unit can be built on a home-made chassis or a standard chassis may be used instead. A filament transformer may be included in the unit in case the heater power can-

not conveniently be obtained from the transmitter itself.

To use the modulator, first tune up the transmitter for ordinary c.w. operation with the modulation unit disconnected. Then connect the modulator output terminals in series with the amplifier cathode as indicated in the circuit diagram. (Make certain that the modulator cathodes are up to operating temperature before applying plate voltage to the r.f. amplifier.)

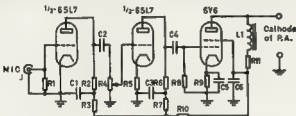
The amplifier plate current should drop to approximately one-half the c.w. value. If the plate current is too high increase the value of R9 until it is in the proper region; if too low, decrease the resistance at R9. Once this adjustment is made, the system is ready for phone operation. The r.f. amplifier plate current should show no change with speech input, except for a slight upward kick on voice peaks.

The carrier power output with this system is somewhat less than would be obtained with conventional grid modulation because the d.c. voltage drop in the 6Y6 modulators subtracts from the amplifier plate voltage. The difference is small with r.f. tubes operating at 1,000 volts or more.

Your scribe used, instead of the 6SL7 and 6Y6G, a 12AX7 and 6V6GT and the results were very favourable. L1 became an old speaker transformer, the secondary of which became a good monitor. Apart from these alterations, the circuit is exactly as shown.

—David Priestley, W1A-L3163

(Although the author is not licensed, he built this unit in conjunction with VK3AHM, and based it on an article in the 1955 A.R.R.L. Handbook—Ed. "A.R.R.")



Circuit Diagram of the Speech Amplifier and Modulator.

C1, C3, C5—8 μ F. electrolytic, 450v.
C2—0.005 μ F., 400v.
C4—0.01 μ F., 400v.
C6—50 μ F. electrolytic, 50v.
R1—2.2 megohms, $\frac{1}{2}$ watt.
R2—3.3 megohm, $\frac{1}{2}$ watt.
R3, R7, R10—22,000 ohms, $\frac{1}{4}$ watt.

R4—0.5 megohm volume control.
R5—1,500 ohms, $\frac{1}{4}$ watt.
R6, R8—0.1 megohm, $\frac{1}{4}$ watt.
R9—50 ohms, 2 watt (see text).
R11—2,000 ohms, 2 watts (see text).
L1—Small filter choke, "a.c.-d.c." type satisfactory.

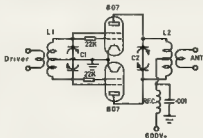
A ZERO BIAS CLASS B LINEAR

Many sideband operators in the past have found the linear amplifier a stumbling block with the generally stringent requirements as to bias and screen regulation. I decided to see how the zero bias class B 807 circuit¹, so popular as a modulator, would perform as an r.f. amplifier.

The circuit was constructed for 80 metres as per the schematic. Drive was from a 57B3 class A stage from the d.s.b. output of a balanced modulator on 3.5 Mc. This output, while scarcely sufficient to drive the linear to its full capability, was adequate to show that the circuit really works.

Reference to the circuit will show that no screen bypasses are used; indeed if they were, the circuit would not work!

To tune up it is only necessary to feed carrier or sideband to the input and peak this circuit; the plate tank condenser is then peaked for maximum



L1—30 turns 30 s.w.g., 1 $\frac{1}{2}$ inch diameter, centre tapped. Drive link 4 turns of hook-up wire on top.

L2—30 turns 20 s.w.g., 2 inch diameter, centre tapped.

C1—Broadcast gang.

C2—Can be broadcast gang with half of the plates removed to double space.

output. Standing plate current is, of course, very low (in the order of 5 mA. with 600v. applied).

The maximum plate current depends on the input signal, to a slight degree on the loading and, if you like, on how red you can stand your 807s (approx. 200 mA. at 800v.).

Efficiency appears to be about 70%, which compares with a theoretical 78.5% for class B. The anode supply should have fairly good regulation if this figure is to be realised. No neutralising was found necessary on 80 metres.

—Brian J. Warman, VK5BI

AMERICAN CALL BOOK

The Federal Treasurer, W.J.A., has for sale a \$1 post paid recent back numbers of "Call Book Magazine." These, at less than half price, have been used by Federal Officers and most are in new condition. Apply Bob Boase, VK5NI, 56 Cardigan Street, Carlton, Vic. Only the edition listing American Amateurs available at present.

¹"Amateur Radio," August 1960.

HERE IT IS! THE SPECTACULAR SSB TRANSCEIVER

Featuring the same unmatched performance, reliability and craftsmanship you have learned to expect from Swan Electronics. These units are now in production.



SWAN-406 MINIATURISED CONTROL UNIT

Miniature design for mobile mounting in conjunction with the Swan-400. May also be used for fixed station operation if desired.

- Phone Band Coverage as follows: 3.8-4.0, 7.1-7.3, 14.15-14.35, 21.25-21.45, 28.5-28.7, and 28.7-28.9 Mc. (These ranges can be easily adjusted to cover other segments if desired.)
- Direct reading dial scale calibrated in 2 Kc. increments. Dual tuning knobs provide choice of fast 6:1 ratio or slow 38:1 vernier tuning.
- Transistorised V.f.o. Circuit with Zener regulated power supply.
- Temperature Stability: Warm-up drift is virtually eliminated due to separation of the V.f.o. from the transceiver's relatively high temperature, and by the use of transistors. Oscillator circuit is fully compensated for wide excursions in ambient operating temperature.
- Voltage Stability: Zener voltage regulator completely isolates oscillator circuit from power supply variations. Input voltage can change plus or minus 50 per cent. with no change in oscillator frequency.
- Mechanical Stability: Extremely rugged construction and precision tuning system establishes new standards in operating smoothness.
- Includes receiver r.f. gain control; thus the 406 functions as a mobile control head, and makes it possible to install the Swan-400 transceiver in the trunk, if necessary.
- Compact size allows installation on the automobile dashboard within easy reach and visibility of the operator. Supplied with mounting brackets and hardware. Only 3" high, 4½" wide, 5" deep, 3 lbs. weight.

SWAN-400 5 BAND 400 WATT

- Operates with the Swan-406 or 420 Frequency Control Unit, and the Swan-117B, 117AC, or 512 DC Power Supply.
- Covers the 10, 15, 20, 40, and 80 metre Amateur bands.
- Transmitter Power: 400 watts s.s.b., p.p. input, dist. prod. down 30 db. 320 watts c.w. input, 125 watts a.m. input. P.A. efficiency: 60 per cent.
- Two 6HF5 p.a. tubes, 6GK6 driver stage, 7360 bal. mod.; 17 tubes, total
- Output Circuit: Wide range Pi Coupler, coarse and fine adjustment.
- Panel Controls: Function Switch Sideband Selector, Phone-C.W. Transmitter Selector, Rec. A.F. Gain, Headphone Jack,

- Mic. Jack, Mic Gain, Carrier Bal., P.A. Tune, P.A. Grid, P.A. Load Fine-Coarse, Band Selector.
- Grid Block C.W. Keying. Key jack on chassis rear.
- Trans. Metering: 0-800 mA. P.A. Cath., and Grid Current position for over-modulation indicator.
- Provision for Plug-In VOX Accessory.
- High Frequency Crystal Lattice Filter. Common to transmit and receive circuits. 3 Kc. bandwidth. Unwanted side-band more than 40 db. down. Carrier down over 50 db.
- Overall audio bandpass: Essentially flat from 300 to 3,300 cycles, transmitting and receiving.

JUST THREE YEARS AGO Swan Engineering introduced the now famous SW-120/140/170 Single Band S.s.b. Transceiver. Our Company began as a one-man operation with Herb Johnson, then W0GKA, now W0QKI. In three short years we have grown to include a talented management team of 13 licensed hams, and a top-quality production department. Our success would have been impossible without the tremendous enthusiastic support of Swan owners. We will continue our policy of providing the finest quality control and reliability, top dollar value, and customer service second to none. And now the latest development from the Swan laboratories. We think you'll agree that the Swan-400 is the most versatile, feature-packed Transceiver on the market, regardless of price.

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- Single Conversion Design. Spurious emission and image response down more than 80 db.
- Receiver Sensitivity: Better than 0.5 μ V. for 10 db. signal-noise to noise ratio.
- Wide range A.C.C. System. S-meter functions automatically when receiving.
- 100 Kc. Crystal Calibrator.
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- 8 $\frac{1}{2}$ " high, 13" wide, 11" deep. 15 lbs. weight.

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SWAN-420 FULL COVERAGE FREQUENCY CONTROL UNIT

Designed for fixed station operation in conjunction with the Swan-400 S.S.B. Transceiver. May be installed for mobile operation if full frequency coverage is desired.

- Full frequency coverage of 10, 15, 20, 40, and 80 metre Amateur bands in 80 ranges of 200 kc. each, including WWV range as follows: 3.4-3.6, 3.6-3.8, 3.8-4.0, 7.0-7.2, 7.2-7.4, 14.0-14.2, 14.2-14.4, 14.8-15.0, 21.0-21.2, 21.2-21.4, 21.4-21.8, 28.0-28.2, 28.2-28.4, 28.4-28.6, 28.6-28.8, 28.8-29.0, 29.0-29.2, 29.2-29.4, 29.4-29.6, 29.6-29.8 Mc.
- Direct reading dial scale calibrated in 2 kc. increments. Dual tuning knobs provide choice of fast 6:1 ratio or slow 35:1 vernier tuning.
- Transistorised V.I.o. Circuit with Zener regulated power supply.
- Temperature Stability: Warm-up drift is virtually eliminated due to separation of the V.I.o. from the transceiver's relatively high temperature, and by the use of transistors. Oscillator circuit is fully compensated for wide excursions in ambient operating temperature.
- Voltage Stability: Zener voltage regulator completely isolates oscillator circuit from power supply variations. Input voltage can change plus or minus 50 per cent. with no change in oscillator frequency.
- Mechanical Stability: Extremely rugged construction and precision tuning system establishes new standards in operating smoothness.
- Matches the Swan-400 in height, depth, and styling. Plugs directly into the 400. 5 $\frac{1}{2}$ " high, 8 $\frac{1}{2}$ " wide, 11" deep, 9 lbs. weight.
- Supplied with mounting base which joins the 400 and 420 in a neat tilt-up arrangement for desk top operating. (As illustrated above.)

A TRANSCEIVER CARRIER BALANCE INDICATOR*

E. H. MARRINER, W6BLZ

Why a tuned carrier null indicator? Too often, on a vacation trip with my s.s.b. transceiver, I received the report, "Say, your carrier's showing." This bothered me as there was nothing I could do about it until I got back home.

When you are using a transceiver there is no way you can listen to the receiver portion and check the carrier. Most portable transceivers just don't have provisions for a good null indicator. That's the story of how this little monitor gadget was born.



Front view of the carrier balance indicator. The sensitivity control is to the right and tuning to the left. The slug for L1 is above the meter.

All that has to be done after building this monitor is to slip it in series with the co-ax. line and balance out the carrier. It can also be used to check the output tuning and frequency. The advantage of a tuned indicator is to make sure that the residual signal from any spurious or mixing frequency does not give a false indication. An unwanted signal, even though it is attenuated considerably, can still show on the meter of an untuned indicator. By adding a tuned circuit, the gadget acting as a wave meter helps to make sure that the transmitter is inside of the band. It is very easy, with some excitors, to tune the transmitter to a mixing frequency which is outside of the Amateur band.

CONSTRUCTION

None of the parts are critical. The unit is constructed in a box measuring 3" x 3 1/2" x 2". For excitors or low power s.s.b. transceivers up to 175 watts, the break-down voltage of the 68 pF. capacitor should be 600 volts. The meter is not critical, it can be a 0-1 mA. or a 0-5 mA.

TESTING

When the unit is finished, put it in series with the antenna co-ax. line and insert a little carrier while advancing the 2 megohm potentiometer. If the meter goes in the wrong direction, just reverse the 1N34 diode connections. After getting an indication, adjust the slug of L1 and peaking C3 for resonance with your 7 Mc. signal. (This can be used on any Amateur band by re-designing the L1 and C2 circuit.) After the monitor is tuned, balance out the carrier and advance the potentiometer for more sensitivity to get a good null indication.

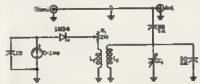


Fig. 1—Circuit of the Tuned Carrier Balance Indicator for the 7 Mc. band. All capacitors are in pF. unless otherwise noted.

C1—11 pF. variable.

L1—20 turns No. 26 on 3/8 inch slug tuned

Harmon.

L3—3 turns hook-up wire on end coil of L1 (wound in same direction).

That is all there is to it! Next time you take a trip, don't be caught without this handy gadget. It's well worth the effort to build it.

NEW CALL SIGNS

FEBRUARY 1964

- VE1AB—C. G. Harvey, 18 Lynch St., Hughes, A.C.T.
- VK1GF—G. R. Felner, 11 Inglaterra Ave., Wahroonga.
- VK1IN—C. Meadows, 80 Damper Boulevard, Killarney Vale.
- VK1AET—Koparuk Evening College Radio Club, Regent St., Koparuk.
- VK1AEN—W. H. R. Smith, Station: Underwood St., One Mile Beach Forster, Postal: "Cumbujows," Forster.
- VK2AKU—P. Maloney, 174 Excelsior Pde., Toronto.
- VK2AZZ—W. A. Bell, 4 Bix Rd., Dee Why.
- VK2AZF—A. J. McHugh, 30 Oliver Rd., Roseville.
- VK2AZT—E. L. McHugh, 30 Oliver Rd., Roseville.
- VK2ZGD—G. R. Connelly, 5 Hancock St., Berkey.
- VK2ZHV—E. H. Vaughan, 73 Byrns Rd., Palm Beach.
- VK2ZSW—K. W. Soward, 54dey St., Nimbin.
- VK3ACZ—V. C. Zawadzinski, 18 Regina St., Ringwood.
- VK3OG—G. S. Semways, Cliveden Mansions, Wellington Pde., East Melbourne.
- VK3P2—N. G. Williams, Station: Mildura Airport, Mildura; Postal: P.O. Box 457, Mildura.
- VK3X5—R. R. Curtin, 112 Centre Dandenong Rd., Cheltenham.
- VK3ZCM—A. E. Menforth, 483 South Rd., Moorabbin.
- VK3ZK—K. J. Greene, 5 Blackshaw St., Ormond East.
- VK3ZRY—L. I. Harrison, 1 Mary St., North Ryde.
- VK3ZUN—A. Lundstedt, 25 Lincoln St., Moe.

- VK4OG—R. E. Gunnouris, 34 Gregory St., Toowoomba, Brisbane.
- VK4YG—G. Yanow, 88 Victoria Park Rd., Kelvin Grove, Brisbane.
- VK4ZHC—C. H. Becking, 24 Shackleton St., Kedron, Brisbane.
- VK5HZ—J. F. Buzarak, C/o Datronics Engineering, 11 St. George's Ter., Perth.
- VK5GL—L. E. Gooding, Durkan.
- VK7WW—H. Harjono, Y.M.C.A., 55 Argyle St., Hobart.
- VK9AD—J. R. Devereux, on board schooner "Matons."
- VK9RB—R. Hattersley, Norfolk Island.
- VK9MJ—J. Mullen, Alexshafen, T.P.N.G.

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"WILLIS" CHASSIS PUNCHES



| MADE OF FINEST GRADE TOOL STEEL | | | |
|---------------------------------|------|------------------|------|
| 5/8 in. punch | 22/- | 1-1/16 in. punch | 38/- |
| 1/2 in. " | 22/- | 1-1/8 in. " | 38/- |
| 5/16 in. " | 22/- | 1-3/16 in. " | 40/- |
| 7/16 in. " | 22/- | 1-1/4 in. " | 48/- |
| 5/8 in. " | 24/- | 1-3/8 in. " | 52/- |
| 11/16 in. " | 26/- | 1-1/2 in. " | 50/- |
| 3/4 in. " | 28/- | 1-5/8 in. " | 60/- |
| 7/8 in. " | 28/- | 1-3/4 in. " | 73/- |
| 1 in. " | 26/- | 2 in. " | 80/- |

SPECIAL SIZES MADE TO ORDER

"Q-MAX" CHASSIS CUTTERS

SCREW TYPE

BRITISH MADE

SAVES TIME — GIVES PROFESSIONAL APPEARANCE

| SIZES | | SIZES | |
|------------|-------|-------------------------------|------|
| 5/8 inch | 30/- | 1-3/8 inch | 40/- |
| 7/8 inch | 30/- | 1-1/2 inch | 40/- |
| 1 inch | 30/- | 1-3/4 inch | 44/- |
| 5/8 inch | 35/- | 2 inch | 48/- |
| 3/4 inch | 35/- | 2-1/8 inch | 70/- |
| 7/8 inch | 38/10 | 2-1/2 inch | 80/9 |
| 1 inch | 38/7 | 1 1/16 in Square | 53/- |
| 1-1/8 inch | 38/7 | 1 in. Square | 50/4 |
| 1-1/4 inch | 38/7 | 2 1/2 x 15/16 in. Rectangular | 78/8 |

The "Q-Max" range of Screw Type Chassis Cutters serve a most useful purpose where holes are to be punched on chassis where components are already mounted. The SQUARE and RECTANGULAR punches save the hard work involved in transformer, plugs and sockets, I.P.F., etc., cut-outs.

WILLIAM WILLIS & Co. Pty Ltd.

428 ELIZABETH ST., MELBOURNE, C.I.

*Reprinted from "CQ," November 1963.

VK-ZL-OCEANIA DX CONTEST, 1963, RESULTS

In presenting the results of the 1963 VK-ZL-Oceania DX Contest, the F.C.C. would like to thank all those who participated in the Contest and to congratulate the winners. In the overseas section the various band scores have not been indicated, only the overall totals.

Last year's Contest saw a considerable increase in the number of logs submitted and it is apparent that it is proving to be a very popular one, especially with overseas Amateurs. A number of overseas Amateurs commented on the increased activity in the VK-ZL area. (Some thought that it could have been better.) Several comments were received on the practice of the VK-ZL operators to use the whole of the bands instead of crowding into small sections of the bands. Overseas Amateurs thought that this enabled them to make their contacts much easier and was quite a popular move.

The 1964 Contest will be organised by the N.Z.A.R.T., and the W.I.A. will be responsible for the Contest in 1965 when we will look forward to your company once again.

—Federal Contest Committee, W.I.A.

| | | | |
|------------|-------|-------|----|
| 20 Metres: | VK5ZP | 8135 | 17 |
| | 2EO | 7850 | |
| | 2GW | 7450 | 20 |
| 15 Metres: | VK6RU | 2905 | 27 |
| | 5ZP | 2915 | |
| | 2GW | 2415 | 30 |
| 10 Metres: | VK6RU | 165 | 36 |
| | 2QL | 55 | |
| | 4LT | 53 | 38 |
| All Bands: | VK5ZP | 16125 | |

PHONE—

| Call | 100 80/60 | 50 | 15 | 10 | Total |
|--------|--------------|------|------|----|-------|
| VK2AHT | 1235 | 6650 | 1285 | — | 9170 |
| 2APK | — | 2845 | 990 | — | 3835 |
| 2KM | — | 3305 | — | — | 3305 |
| 2AKV | — | 1085 | 210 | — | 1295 |
| 2RA | — | 430 | 55 | — | 485 |
| VK5TL | 725 | 4975 | 620 | — | 6320 |
| 3QV | — | — | 1170 | — | 1170 |
| VK4DD | — | 4280 | — | — | 4280 |
| 4LT | 725 | 3470 | 420 | — | 4110 |
| 4UK | — | 1085 | — | — | 1085 |
| 4XJ | 840 | — | — | — | 840 |
| 4SN | — | — | 810 | — | 810 |
| 4PJ | — | 50 | 150 | — | 200 |
| VK6FT | — | 265 | — | — | 265 |
| 5WP | — | 2325 | 300 | — | 2525 |
| VK6RU | 110 | 6370 | 1595 | 55 | 8130 |

| | | |
|------------|-------|------|
| 20 Metres: | ZLIAH | 8025 |
| | 2AYJ | 5340 |
| | 1ARY | 4515 |
| 15 Metres: | ZLIAH | 3050 |
| | 1ARY | 1405 |
| | 2AYJ | 810 |

10 Metres: Nil
All Bands: ZL1AH . . 13045 points

PHONE—

| Call | 100 80/40 | 30 | 15 | 10 | Total |
|--------|--------------|------|------|----|-------|
| ZL1AIX | 2180 | 6220 | 2505 | — | 10905 |
| 1AAS | — | 4430 | — | — | 4430 |
| ZL4OG | — | 480 | — | — | 480 |

Band Leaders—Phone

| | | | |
|------------|--------|-------|--------|
| 80 Metres: | ZL1AIX | 910 | points |
| 40 Metres: | ZL1AIX | 1270 | 39 |
| 20 Metres: | ZL1AIX | 6220 | 39 |
| | 1AAS | 4430 | 39 |
| | 4OG | 480 | 39 |
| 15 Metres: | ZL1AIX | 2506 | 39 |
| 10 Metres: | NIL | | |
| All Bands: | ZL1AIX | 10905 | 39 |

RECEIVING—

[illegible]

AUSTRALIA

| C.W. = | 190 | 20 | 25 | 30 | Total |
|-----------|-------|------|------|----|-------|
| Cell | 00/00 | | | | |
| VK1R | 135 | — | — | — | 135 |
| VK2GW | 2580 | 7480 | 2415 | — | 12455 |
| 2EO | 4115 | 7880 | — | — | 11975 |
| 2RA | 1460 | 8405 | 1850 | — | 8705 |
| 2APK | 1180 | 3920 | 1810 | — | 7010 |
| 2VN | 1870 | 1320 | 220 | 55 | 3465 |
| 2XU | 110 | 2480 | 685 | — | 3255 |
| 2YB | — | 3115 | — | — | 3115 |
| 2YB | 1140 | 1645 | 190 | — | 2975 |
| VK3DQ | 2695 | 3370 | 730 | — | 6795 |
| 3AXK | 2060 | 3195 | 855 | — | 6110 |
| 3YD | — | 5200 | — | — | 5200 |
| 3RJ | 1700 | 2095 | 805 | — | 4600 |
| 3XB | 2910 | 420 | 400 | — | 3730 |
| 3QP | 1680 | 1350 | — | — | 3040 |
| 3ARX | — | 2155 | 110 | — | 2285 |
| 3QV | — | — | 615 | — | 615 |
| VK4SD | — | 5995 | — | — | 5995 |
| 4L5 | — | 4555 | 605 | 55 | 5215 |
| 4CK | — | 2210 | 215 | — | 2425 |
| 4SN | — | 110 | 2025 | — | 2135 |
| 4SS | — | — | 1510 | — | 1510 |
| 4JB check | | | | | |

Band Leaders—C.w.

| | | | | | |
|-------------|-------|----|------|------|--------|
| 160 Metres: | VK5KO | 4 | 4000 | 55 | points |
| 80 Metres: | VK2QL | 11 | 4000 | 810 | 11 |
| | 5KO | 11 | 4000 | 430 | 11 |
| | 5JE | 11 | 4000 | 420 | 11 |
| 40 Metres: | VK5ZF | 11 | 4000 | 4000 | 11 |
| | 2EO | 11 | 4000 | 3850 | 11 |
| | 3XB | 11 | 4000 | 2910 | 11 |

Band Leaders—Phone

| | | | | | |
|-------------|--------|-------|------|--------|----|
| 100 Metres: | Nil | | | | |
| 80 Metres: | VK3TL | | 185 | points | |
| | 6RU | | 85 | | 70 |
| 40 Metres: | VK2AHT | .. | 1235 | | 75 |
| | 4XJ | .. | 940 | | 75 |
| | 3TL | .. | 580 | | 70 |
| 20 Metres: | VK2AHT | .. | 8650 | | 85 |
| | 6RU | .. | 6370 | | 80 |
| | 3TL | .. | 4975 | | 70 |
| 15 Metres: | VK6RU | | 1595 | | 75 |
| | 2AHT | .. | 1285 | | 70 |
| | 3QV | | 1170 | | 70 |
| 10 Metres: | VK6RU | | 55 | | 80 |
| All Bands: | VK2AHT | .. | 9170 | | 80 |

RECEIVING—

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| WIA-L2033 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 | 112 | 114 | 116 | 118 | 120 | 122 | 124 | 126 | 128 | 130 | 132 | 134 | 136 | 138 | 140 | 142 | 144 | 146 | 148 | 150 | 152 | 154 | 156 | 158 | 160 | 162 | 164 | 166 | 168 | 170 | 172 | 174 | 176 | 178 | 180 | 182 | 184 | 186 | 188 | 190 | 192 | 194 | 196 | 198 | 200 | 202 | 204 | 206 | 208 | 210 | 212 | 214 | 216 | 218 | 220 | 222 | 224 | 226 | 228 | 230 | 232 | 234 | 236 | 238 | 240 | 242 | 244 | 246 | 248 | 250 | 252 | 254 | 256 | 258 | 260 | 262 | 264 | 266 | 268 | 270 | 272 | 274 | 276 | 278 | 280 | 282 | 284 | 286 | 288 | 290 | 292 | 294 | 296 | 298 | 300 | 302 | 304 | 306 | 308 | 310 | 312 | 314 | 316 | 318 | 320 | 322 | 324 | 326 | 328 | 330 | 332 | 334 | 336 | 338 | 340 | 342 | 344 | 346 | 348 | 350 | 352 | 354 | 356 | 358 | 360 | 362 | 364 | 366 | 368 | 370 | 372 | 374 | 376 | 378 | 380 | 382 | 384 | 386 | 388 | 390 | 392 | 394 | 396 | 398 | 400 | 402 | 404 | 406 | 408 | 410 | 412 | 414 | 416 | 418 | 420 | 422 | 424 | 426 | 428 | 430 | 432 | 434 | 436 | 438 | 440 | 442 | 444 | 446 | 448 | 450 | 452 | 454 | 456 | 458 | 460 | 462 | 464 | 466 | 468 | 470 | 472 | 474 | 476 | 478 | 480 | 482 | 484 | 486 | 488 | 490 | 492 | 494 | 496 | 498 | 500 | 502 | 504 | 506 | 508 | 510 | 512 | 514 | 516 | 518 | 520 | 522 | 524 | 526 | 528 | 530 | 532 | 534 | 536 | 538 | 540 | 542 | 544 | 546 | 548 | 550 | 552 | 554 | 556 | 558 | 560 | 562 | 564 | 566 | 568 | 570 | 572 | 574 | 576 | 578 | 580 | 582 | 584 | 586 | 588 | 590 | 592 | 594 | 596 | 598 | 600 | 602 | 604 | 606 | 608 | 610 | 612 | 614 | 616 | 618 | 620 | 622 | 624 | 626 | 628 | 630 | 632 | 634 | 636 | 638 | 640 | 642 | 644 | 646 | 648 | 650 | 652 | 654 | 656 | 658 | 660 | 662 | 664 | 666 | 668 | 670 | 672 | 674 | 676 | 678 | 680 | 682 | 684 | 686 | 688 | 690 | 692 | 694 | 696 | 698 | 700 | 702 | 704 | 706 | 708 | 710 | 712 | 714 | 716 | 718 | 720 | 722 | 724 | 726 | 728 | 730 | 732 | 734 | 736 | 738 | 740 | 742 | 744 | 746 | 748 | 750 | 752 | 754 | 756 | 758 | 760 | 762 | 764 | 766 | 768 | 770 | 772 | 774 | 776 | 778 | 780 | 782 | 784 | 786 | 788 | 790 | 792 | 794 | 796 | 798 | 800 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | 826 | 828 | 830 | 832 | 834 | 836 | 838 | 840 | 842 | 844 | 846 | 848 | 850 | 852 | 854 | 856 | 858 | 860 | 862 | 864 | 866 | 868 | 870 | 872 | 874 | 876 | 878 | 880 | 882 | 884 | 886 | 888 | 890 | 892 | 894 | 896 | 898 | 900 | 902 | 904 | 906 | 908 | 910 | 912 | 914 | 916 | 918 | 920 | 922 | 924 | 926 | 928 | 930 | 932 | 934 | 936 | 938 | 940 | 942 | 944 | 946 | 948 | 950 | 952 | 954 | 956 | 958 | 960 | 962 | 964 | 966 | 968 | 970 | 972 | 974 | 976 | 978 | 980 | 982 | 984 | 986 | 988 | 990 | 992 | 994 | 996 | 998 | 1000 |
| WIA-L3183 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 | 112 | 114 | 116 | 118 | 120 | 122 | 124 | 126 | 128 | 130 | 132 | 134 | 136 | 138 | 140 | 142 | 144 | 146 | 148 | 150 | 152 | 154 | 156 | 158 | 160 | 162 | 164 | 166 | 168 | 170 | 172 | 174 | 176 | 178 | 180 | 182 | 184 | 186 | 188 | 190 | 192 | 194 | 196 | 198 | 200 | 202 | 204 | 206 | 208 | 210 | 212 | 214 | 216 | 218 | 220 | 222 | 224 | 226 | 228 | 230 | 232 | 234 | 236 | 238 | 240 | 242 | 244 | 246 | 248 | 250 | 252 | 254 | 256 | 258 | 260 | 262 | 264 | 266 | 268 | 270 | 272 | 274 | 276 | 278 | 280 | 282 | 284 | 286 | 288 | 290 | 292 | 294 | 296 | 298 | 300 | 302 | 304 | 306 | 308 | 310 | 312 | 314 | 316 | 318 | 320 | 322 | 324 | 326 | 328 | 330 | 332 | 334 | 336 | 338 | 340 | 342 | 344 | 346 | 348 | 350 | 352 | 354 | 356 | 358 | 360 | 362 | 364 | 366 | 368 | 370 | 372 | 374 | 376 | 378 | 380 | 382 | 384 | 386 | 388 | 390 | 392 | 394 | 396 | 398 | 400 | 402 | 404 | 406 | 408 | 410 | 412 | 414 | 416 | 418 | 420 | 422 | 424 | 426 | 428 | 430 | 432 | 434 | 436 | 438 | 440 | 442 | 444 | 446 | 448 | 450 | 452 | 454 | 456 | 458 | 460 | 462 | 464 | 466 | 468 | 470 | 472 | 474 | 476 | 478 | 480 | 482 | 484 | 486 | 488 | 490 | 492 | 494 | 496 | 498 | 500 | 502 | 504 | 506 | 508 | 510 | 512 | 514 | 516 | 518 | 520 | 522 | 524 | 526 | 528 | 530 | 532 | 534 | 536 | 538 | 540 | 542 | 544 | 546 | 548 | 550 | 552 | 554 | 556 | 558 | 560 | 562 | 564 | 566 | 568 | 570 | 572 | 574 | 576 | 578 | 580 | 582 | 584 | 586 | 588 | 590 | 592 | 594 | 596 | 598 | 600 | 602 | 604 | 606 | 608 | 610 | 612 | 614 | 616 | 618 | 620 | 622 | 624 | 626 | 628 | 630 | 632 | 634 | 636 | 638 | 640 | 642 | 644 | 646 | 648 | 650 | 652 | 654 | 656 | 658 | 660 | 662 | 664 | 666 | 668 | 670 | 672 | 674 | 676 | 678 | 680 | 682 | 684 | 686 | 688 | 690 | 692 | 694 | 696 | 698 | 700 | 702 | 704 | 706 | 708 | 710 | 712 | 714 | 716 | 718 | 720 | 722 | 724 | 726 | 728 | 730 | 732 | 734 | 736 | 738 | 740 | 742 | 744 | 746 | 748 | 750 | 752 | 754 | 756 | 758 | 760 | 762 | 764 | 766 | 768 | 770 | 772 | 774 | 776 | 778 | 780 | 782 | 784 | 786 | 788 | 790 | 792 | 794 | 796 | 798 | 800 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | 826 | 828 | 830 | 832 | 834 | 836 | 838 | 840 | 842 | 844 | 846 | 848 | 850 | 852 | 854 | 856 | 858 | 860 | 862 | 864 | 866 | 868 | 870 | 872 | 874 | 876 | 878 | 880 | 882 | 884 | 886 | 888 | 890 | 892 | 894 | 896 | 898 | 900 | 902 | 904 | 906 | 908 | 910 | 912 | 914 | 916 | 918 | 920 | 922 | 924 | 926 | 928 | 930 | 932 | 934 | 936 | 938 | 940 | 942 | 944 | 946 | 948 | 950 | 952 | 954 | 956 | 958 | 960 | 962 | 964 | 966 | 968 | 970 | 972 | 974 | 976 | 978 | 980 | 982 | 984 | 986 | 988 | 990 | 992 | 994 | 996 | 998 | 1000 |
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| C.W.— | 100 90/90 | 90 | 18 | 10 | Total |
|---------------|--------------|------|------|----|-------|
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| 1ARY | 285 | 4515 | 1495 | — | 6185 |
| 1AIX | — | 4295 | 805 | — | 5100 |
| 1WW | 3345 | — | — | — | 3345 |
| 1HY check log | | | | | |
| ZL2AWJ | 4480 | 4105 | 755 | — | 9340 |
| 2AYJ | 2565 | 5340 | 810 | — | 8715 |
| 2ASM | 55 | 4440 | 525 | — | 5020 |
| ZL3VW | — | 3220 | — | — | 3220 |
| 3VI | 520 | 2400 | — | — | 2920 |
| 3IS check log | | | | | |
| ZL4BO | 2445 | — | — | — | 2445 |
| 4JF | — | 300 | — | — | 300 |

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| | | | |
|------------|--------|------|--------|
| 80 Metres: | ZL2AWJ | 380 | points |
| 40 Metres: | ZL2AWJ | 4100 | 00 |
| | 1WW | 3345 | 00 |
| | 2AYJ | 2505 | 00 |

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| WVBC | " " | 507 | WYVR | 3450 |
| WSNG | " " | 393 | WTPO | 319 |
| WAGD | " " | 35 | WBTH | 388 |
| 437 | " " | 437 | WVTV | 140 |
| WSWZ | " " | 640 | XSTVD | 5286 |
| WBSK | " " | 490 | WAGU | 440 |
| WVBC | " " | 497 | WVTV | 275 |
| KJAY | " " | 418 | WOYCR | 973 |
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A formal reply will be sent those correspondents where this is also required.

At the May meeting the new '64/'65 Call Book was discussed and it was agreed that the price would remain as before. Supplies are expected within the next three months and should be available some time in July on present indications.

The layout of the current Log Book was discussed and it was agreed that the newer vertical style be adopted as a trial and user's comments would be awaited.

Four new technical articles were received, but as these are still less than our needs, it was agreed that "A.R." would regularly publish technical articles from other magazines. This does not suit all readers, particularly those who have access to other overseas magazines, but it was thought that many Amateurs who do not receive other magazines did welcome the

opportunity to read these reprinted articles.

The Prediction Charts have not been commenced as the Committee await all States to agree to certain proposals submitted at the last Federal Convention. When these are ratified it will be possible for your Committee to allocate more funds to printing "A.R." It is the current lack of finance which has temporarily reduced the size of "A.R."

The Committee expressed their gratitude to those who have volunteered to assist in doing the required drawings for the magazine. In addition, it was reported that to date no suitable volunteer had been found to act as sub-editor for the temporarily discontinued Sideband Page. Some correspondents are overlooking the fact that all notes must be received by "A.R." on or before the 8th of the month preceding publication, late arrival of the notes means their omission from "A.R." In this issue all notes received were published and any missing notes indicates that they had not been received or were sent in too late for publication.

The Publications Committee will print in this column each month the main points regarding Magazine happenings so that you, the reader, will be fully aware of the facts. Comments are invited upon the introduction of this column.

Book Review

A.R.R.L. 1964 HANDBOOK

For thirty-five years the A.R.R.L. has issued the "Radio Amateur's Handbook" and during this period they have adopted a standard style of layout. Each year they add or subtract to its contents, depending upon the current trend of Amateur Radio in the U.S.A. This book is a very valuable reference source and does provide the basic theory and practical aspects of Amateur Radio.

In twenty-five chapters it deals very thoroughly with the average Amateur's needs, but due to the higher power permitted for U.S.A. transmitters the book is biased towards such high power rigs. This, however, is only a minor point as the average reader will realise that the final p.s. can be omitted and so provide a rig suitable for Australian conditions.

Every Amateur should have a copy of the A.R.R.L. Handbook and if your edition is many years old, then the current issue is a good buy at 5/6 each. It is one of the cheapest books of its type available and will remain an asset for many years to come.

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THE TRANSISTOR RADIO HANDBOOK

The first edition of this handbook by Donald L. Stoner and L. A. Earnshaw, two world famous Hams, is published by Editors & Engineers Ltd., a name famous for many years for their "Radio Handbooks". The book under review upholds the high reputation already held by this group and presents the subject in a manner that can be clearly and easily understood by the average Amateur.

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Those persons supplying notes to this section should note that the new sub-editor for this section will be Chas Abernethy, WIA-12211, and all mail for this column should be sent to him by 30th of month at 30 Urunga Pde., Miranda, N.S.W.

TWO S.W.L. AWARDS

We now have the details of two s.w.l. awards which are available to you. These awards have the approval of Federal Executive, who are supplying the attractive certificates. The awards are Heard All VK and S.W.L. D.X.C.C. The requirements for these awards are as set out below.

The Heard All VK award requires one card from each of the following areas VK1, VK2, VK3, VK4, VK5, VK6, VK7, VK8, VK9 (New Guinea), VK9 (Papua), VK9 (Nauru or Norfolk), VK9 (Cocos Keeling or Christmas Island), VK9 (Heard Island or Macquarie Island), VK9 (Antarctica). A total of 14 cards in all for this award.

The S.W.L. D.X.C.C. award requires one QSL card from 100 different countries; these countries as per the W.I.A. list of separate countries status. A total of 100 cards for D.X.C.C.

For each of these awards it does not matter what mode of reception was used, but it must be from an Amateur station. The information on the card should include the date, time (either G.M.T. or S.A.E.T.), frequency, mode and station worked or CQ, and whether you do not enter into either award and they must be post-war QSL cards. These awards will be issued to overseas s.w.l.s as well as V.Z.s members. The awards manager is Eric Treblecock, WIA-12042, 340 Gillies St., Thornbury, N.Y., Victoria.

NEW SOUTH WALES

If the mail to this QSL continues I am afraid that the heading of N.S.W. shall have to be changed. To my great pleasure letters have reached me from VK3, 3, 4 and 8. This is very encouraging and I extend sincere thanks to those who have given a little of their time to pen a few lines. For those s.w.l.s who do not have a b.f.o. on their rx we have a circuit of a very simple unit which can be added to your set. A copy plus an explanation can be yours for the asking. Also available is a time conversion chart. When applying, please enclose a stamp for postage. Our thanks go to Eric Treblecock (President of the VK3 Group) for the above two items, as a lot of time went into the drawings which are a credit to him.

Don L1021 has not done much listening this year to date, but shall have something for us in the near future. Ross Beckley finds the

s.w. b.c. side of s.w.l'ing interesting and has to his credit 68 countries, 48 stations, with 36 confirmations. Comments on passing the A.O.C.P. exam. Roger L2231 listens on a d.w. set with a 70 ft. long wire, and has logged K2, K7, K1K, ZL, etc., on 14 Mc. Sid L2358 received on 14 Mc. s.w. H2B, G2, UDM, KX, VK8, UA9, C19, 93M2, VV and F08. Quite a nice variety. Ross L2333/VK8 heard on 14 Mc. s.w. L10 and ZL. Robert Schwartz is a new member in VK2, we offer a hearty welcome to you. Chas L2211 has again received the Elizabethan Award.

VICTORIA

Maurie L3055 is having rx trouble, which he hopes will be rectified soon; the trouble is not affecting his DX listening. Noel L1311 reports that from 1950 he has made 1,500 entries in his log book, sent our 500 reports and received a return of over 300 cards. He has heard H1, V54, 53M5, VK4, Harry L1311 is hoping to try the 82 Mc. band at a later date. I think you shall enjoy the openings on that band. Let us know of your progress.

QUEENSLAND

Chas L4018 uses an Edgewise 640 rx with a GSRV antenna. Hope you enjoy the booklet Chas. Lew L4020 in the Brisbane area has a modified d.w. rx and has logged G3, G3, UA4, ZK, F and JA—nice going. Low. Bill L4001, during March, received on 14 Mc. UA, CE, DV, K1J, HLA, F08, G5, XE, JA and W3—quite a nice haul. Please send you found the serial book of interest.

SOUTH AUSTRALIA

Alan L5065, Yes, it is pleasing to know that at least there is one active S.W.L. in VK3. Alan uses a d.w. and a nine-tube rx. On 14 Mc he heard V, H, M1, UA, UB, SH, HB, O, G1, GM, DV, F and thanks for your letter TX, Chas L2311

DX LADDER

| Countries | Conf. | Red. | Conf. | Sab. | Conf. | W |
|---------------|-------|------|-------|------|-------|----|
| E. Treblecock | 289 | 289 | 40 | 28 | 194 | 50 |
| D. Grantley | 119 | 574 | 40 | 28 | 28 | 20 |
| P. Drew | 64 | 287 | 30 | 44 | 294 | 27 |
| A. Whitcomb | 83 | 189 | 31 | 6 | 107 | 11 |
| M. Hillard | 97 | 241 | 33 | 34 | 160 | 12 |
| M. Cox | 88 | 223 | 30 | 51 | 165 | 21 |
| C. Abernethy | 58 | 161 | 21 | — | — | — |
| N. Harrison | 53 | 159 | 21 | — | — | — |
| O. Earl | 33 | 130 | 20 | 32 | 127 | 6 |
| I. Thomas | 49 | 128 | 20 | 16 | 97 | 14 |
| R. Beckley | 37 | 98 | 18 | — | — | — |
| R. Oats | 36 | 98 | 18 | — | — | — |

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R." in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff.

Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.

Please address all articles to the
EDITOR "A.R."
P.O. BOX 36,
EAST MELBOURNE, C2,
VICTORIA.

YOUTH RADIO CLUBS

Special congratulations this month to Bob SOD, who is the new V.Z.C. superior for VK3. He is the founder of the well known "Open Door Radio Club" which has been part of Melbourn Youth work for some years. This is great news. If you are a V.Z.C. member from the Division, you will get some club leaders who would otherwise feel knosed under before they started. Details of this Divisional help will be eagerly awaited.

There is also a new supervisor in VK8—a good type, obviously, because he wrote me a letter! He is Lawrence Jessop, GZEA, a teacher at the Victoria College, who is running a very active club. There is a call sign 6ZTW but no suitable gear—did I hear somebody in VK8 with some suggestion? The club is distinguished by having two members who recently passed L.A.O.C.P.—Ray Godley, GZEG, and Peter Penberth, GZEP. I hope they inspire others in VK8 to make the effort.

There are now further details from the Booragul High V.Z.C. As well as Susan Brown, our first school girl A.O.C.P., there were two others in the January exam—Jan Ostervier and Beckie. This means that the new Keith Howard stable—worth an Oscar (Hollywood type). The total of new Amateurs from V.Z.C. now stands at 11 on my count, in such short time. This might wear in, indicates what could be done with full backing. This is so obvious that one should not be surprised at our next piece of news.

The Federal Secretary of the W.I.A. has received a letter from the Radio Society of Great Britain, asking for details of the Australian Youth Radio Clubs and indicating that a similar project is being considered in U.K. They have the same great need to provide a worthwhile challenging hobby for their youth, and even in a country where a great deal more commendable things are used in providing education than in this country, every little bit helps. Also, the U.K. Amateur numbers situation is not much better. In the U.K. there is on a ratio basis with the 250,000 U.S. Amateurs, Australia should have 12,500 Amateurs instead of the present 2,000. You should all do your bit in educating local M.R.B. in the fact that a minute fraction of Sir Robert's £24 million for science education or, even easier and cheaper, the granting of movie licences would encourage many more people to study our branch of electronics.

Chas IUC showed a fine touch in publicity when he put the Clontarf High School V.Z.C. on the air (VK4RP) recently. He managed to obtain in two papers several notices on A.B.C. television, and several columns in the dailies, as well as the presence, at the opening, of the Australian Director of Secondary Education, the Mayor of Redcliffe, and some 30 parents. This is publicity of the best kind—other club leaders can aim towards this gathering of goodwill for a good cause. Chas backed up by Alf 40L at 4WT and about 40 odd contacts, which is very good for an afternoon effort. V.Z.C. local V.Z.C. member, Roger IRL and Jim IJR, managed a contact. A tx for your V.Z.C. makes a great magnet as Chas has shown. If you are a club leader without license or gear, get your gear together if you make a great effort to interest your Division or the local Amateurs in providing regular opportunities for youngsters to be excited by talking over the air.

I had a very encouraging talk with ex-V.Z.C. George IGB, who is now at Australian National University. He is most emphatic that his A.O.C.P. studies have helped him considerably in his post-war physics especially the experimental work where there are so many electronic methods. Club leaders should remember this, while still insisting that all-round academic results set the scholarship. Electronics study must do good—excessive operating or aimless "messing about" must be avoided in final high school year, except in ordinary spare time. TX, IJRM.

NAUVEU ISLAND

VK9WP will be operating from this rare spot for the next two years. He expects to reach the island in June and will use both c.w. and phone. (He has a "Panda" transmitter.) QSL via the VK3 Bureau.

—L3048/REUR198.

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Sub-Editor: A. H. BEHRENN, VK5BB,

36 Stanley Street, Crystal Brook, South Aus.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Before I start this month's notes allow me to make it known that all DX notes for each month must be in the Editor's hands on the 1st of the month preceding the actual issue date. A moment's reflection on this will convey that approximately three weeks have elapsed from the time they leave this typewriter until they find their way into your letterbox. Therefore some hot DX news cannot be included in the month's publication.

For the very keen boys the bands are still offering quilla good contacts and with the trough at our back door, Ken 3TL advises he has just had his best month ever. Shift workers and the lucky retired who used 14 Mc. during the afternoon are now getting up to two or three hours of uninterrupted contacts.

VK3AC/Mobile heard just below 71 Mc. with G1, GW and GS on the book all at once. Not bad for mobile a.s.b.

Graham has returned from Norfolk, with his antenna a Wyndomi reported up around the 100 ft. mark, reports noise level very low, and worked some European DX. There were many pile-ups although contacts appeared a little spasmodic, plus the fact of one blackout. Multi-band vertical for 14 Mc was used.

WVWV/MX, aboard the U.S. Gridley, has arrived in VK for the Coral Sea Celebrations, with operator Lefty kept very busy working the local boys.

The workings of all contributors will in future be grouped in the respective bands to conserve space and to keep the reporting more uniform.

500 Metres: No reports on this band at all. Please, a list from someone!

80 Metres: VF6GL worked on c.w. and a.m. QRN still heavy, but should improve in the near few weeks.

40 Metres: Heard at good strength are G, GW, GI on most afternoons around 7.1 Mc. W3CX, whilst some mornings around 6.8 Mc. some of the near middle sea countries can be had, try 7045 Mc. This reference to a.s.b.

20 Metres: Fairly lively during the p.m. hours without any real sets the band appears to have passed out and the noise level is very high.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

| Call | Cor. Cnt. | Call | Cor. Cnt. |
|----------|-----------|----------|-----------|
| Cor. No. | ries | Cor. No. | ries |
| VK3MS | 24 306 | VK3KW | 4 211 |
| VK3AB | 45 203 | VK3VJ | 14 211 |
| VK3RU | 3 297 | VK3JZ | 61 210 |
| VK3MK | 43 281 | VK3ATN | 28 204 |
| VK3AO | 71 286 | VK3AB | 12 202 |
| VK3FJ | 21 278 | VK3RW | 23 190 |

Amendments:
VK3ARJ 80 107

C.W.

| Call | Cor. Cnt. | Call | Cor. Cnt. |
|----------|-----------|----------|-----------|
| Cor. No. | ries | Cor. No. | ries |
| VK3B | 18 | VK3ACH | 71 |
| VK3CK | 25 | VK3AB | 66 |
| VK3B | 45 | VK3Q | 25 |
| VK3FJ | 29 | VK3B | 73 |
| VK3NC | 19 | VK3YL | 30 |
| VK3RU | 16 | VK3RK | 23 |

Amendments:
VK3JT 70 199

OPEN

| Cor No. | Cnt- ries | Call | Cor No. | Cnt- ries |
|------------|--------------|-------|------------|--------------|
| 82 | 305 | VK3NC | 77 | 283 |
| 8 | 304 | VK3JG | 3 | 374 |
| 8 | 300 | VK3JA | 43 | 252 |
| 83 | 283 | VK7LZ | 23 | 242 |
| 74 | 293 | VK4HR | 7 | 233 |
| 75 | 287 | VK3BZ | 4 | 231 |

Amendments:
VK3VN 18 230

Some stations worked: UAOKJA (9002), WJRY (1405), SPHDX (1330), UAOKKA (1360), KGRN (9240), JA, etc. all on a.m.
W3-W1, UDKAR, 13000, FTJAL (1315), KP4AAQ (6631), VK0G3 (7045), UAREK (1320), VK3AH (L.H.1, 8330), VERAH (0730), CGJAH, CTJCT, FBZ2Z, G3ARAF, H3GFP, HZ3AAK, HZ3, JTJCT, MIAC, K3AC7, OX3YJ, FYAREK, SL3AD, TGOBJ, VPJTA, VP3RAG, VP3KEL, VP3PCK (Cragos), V3BAAA, VY6RND, ZC3AS, ZP3RD, S3ATT, SAIZG. The above all a.s.b.
KN7BDV and CR3AD on c.w.
18 Metres: W8 and JAs on a.m. and improving to west coast 0100Z. KX45, JA on a.s.b.
14 Metres: Ron SC2M repeated working JA on this band. VK3CK also says he has heard them.
All times quoted are in G.M.T.

QTE CORNER

MIAC-VIA K3UZA.
OX3YJ-VIA SM3ACZ.
VP3TA-Box 200, Belize, British Honduras.
SAIZG-VIA DJJZO.
AP3AD-Ahmed Ebrahim, P.O. Box 6074, Karachi.
BV1USG-Mars Station, A.P.O. 63, San Francisco, California.
CE1FW-Immao, Havana, Castillo 162, Copiapo.
CO1TA-Marcia Tocco, Aeronautica, Base San Jullien.
CN3BD-Roger Davine, Immeuble Consulat Des CPADB-M. Antonio Carbag, Hoyos 40, Petrol.
CR3AB-Alder Oliveira, Sal Airport, C.V.I.
CX1TD-Beatriz de Del, 35 de Mayo 47, Rocha, Rocha.
D3UAA-G. V. Haylock, VIA G3DEV.

ZS2MI-MARION ISLAND

"The three small archipelagoes of Kerguelen Island (FBSCK), Marion Island (ZS2MI) and Prince Edward Island and the Crozet (FBSW) are individually and collectively the most barren tracks on the globe. Whether in their own latitude or in a higher one, except as lie in the Antarctic Circle itself. For no land, even in the North Polar area, presents such an impoverished vegetation"-see wrote J. D. Hooker in his memoirs on the botany of Kerguelen Island.

Marion Island was discovered in 1775-in 1777 Capt. Cook (yes, the same James Cook associated with Australian history) gave it its present name.

The island is 12 miles by 8 miles and was annexed and occupied on 28th December, 1947. The present weather station was established there in January 1948. The inhabitants of the island consist of four weather men, a medical officer, a radio technician and a radio operator. Amateur Radio communication from Marion Island, using call ZS2MI was first established in March 1948, and its operation has been continued ever since. The 12 runs 150w. into a rhombic beamed on Pretoria (South Africa). The 2's are AR8A, 1155 and H35A. Despite restricted Ham operation, a D.X.C.C. can be obtained within a few months.

Marion Island is continually swept by gales, and heavy seas pound its cliffs, with spray reaching up to 300 feet. Cloudless days are few and far between, and it rains on an average 295 days each year.
The central peak on the island rises to 3,800 feet a.s.l. There is NO soil on the island, and the top is covered by a thin layer of moss, always soggy. All buildings stand on poles which are let down 15 feet onto solid rock and are linked by catways for the convenience of the men living there.
Seals, sea elephants, birds (30 species of the latter frequent the island).

The above facts give some insight into a distant and very bleak island weather station, where although only seven men exist, Amateur Radio is "on their plates". The word ZS2MI is a call sign well known to lots of VKs—just as it is allowed by the Australian Government for A.N.A.R.R. men who occupy the lonely Antarctic weather station on Macquarie Island. [Acknowledgment is made to the Durban Branch of the S.A.R.L., from whose newsletter "CQ", the above information was taken.—1304Z/BEZS130.]

EASAP-Adolfo P. Real, Coral, Marinas 24, Melilla.
FIKT-Francisco Aguilera Pila, via FASEKT.
H3TJAJ-Heriberto Munoz O, Cass Curral, L. Paz, Boyaca.
H3TJAJ-Bernardo Siles, Castel del Ovo, Napoli.
JAZAJZ-K. Jinnal, 1080 Gok, Kurume.
OBSXZ-Admiral Tony Tzoukian, P.O. Box 1656, Beirut.
OH3GQ-Perit Daktrom, Laanla 3, Oulu.
TH3PQ-Mario A. Macariegos C, Apto 116, Guatemala City.
V3AQM-Alvin G. Goranson, Lundar C.
5UTAA-Vierre Boys, Entreprises de Benia, Niamey.
9N1MM-Roy Marshall D. Moran, P.O. Box 80, Kathmandu.
P3QAN-Robert Perry, P.O. Box 2337, Elizabethville, Katanga.
AR3R-Chef de Service Radio, Post and Telegraphs, Tananarive.
4K4LS-Royed Ben-Arova, Even Yehuda.
Country names to follow the above add.

Best QSLs reported this month: YN1BSV, UDKAR, FY3YJ, UH3AA, G3LCH, BV1USG, SU1IM, YN3RD, V3RKAH, VQ3IN/V3SH, CR3AD.

Once again a further plea to those that are interested in 160 and 80 metre bands DX wise. Would SKO like to send a rough list of his exploits? The undermentioned call sign is now on the air with a.m. and a.s.b., so if you feel disposed to call me any time or break in with some news, please accept this invitation. I will be glad to receive your contribution. Special thanks to SCZ, 3TL and G3K. I'll get around to writing my special thanks one day. 13, 1948.

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

S.W.I.A. AND QSL's

Editor "A.R." Dear Sir,

Following a mail bag containing 38 letters from the S.W.I.A. I have read them, and I find it necessary to comment on points that have, I feel, become out of control in replying to most of them.

Out of 38 reports only 3 had included stamped addressed envelopes. This is not a small matter, and may I remind the S.W.I. that he is not the only one requesting a QSL, there are many, many others doing the same and boy for the person replying to each report it entails quite an expense!

You may argue that you are doing the Amateur a service in giving him a report and he is indebted to reply. My answer to this is absolutely NO. If only the S.W.I. would stop to think of the Amateur's point of view he would realise that he is not requesting a report from a listener in the same city that the Amateur has been working at 5/9. Naturally he expects to be heard, and is not interested in a report.

My way of thinking, a report should be given under conditions, for example, when you are generally W and are heard in G, where the report is of interest to S.W.I. and Amateur alike.

There may be the obvious reason for wanting a QSL (new country or district) and it stands to reason if the listener wants a QSL sufficiently he will, and does, include a stamped addressed envelope.

In conclusion, may I say I have found W.I.A. S.W.I. generally do this or that QSL via the Bureau, which is not so bad, but to be expected to supply every S.W.I. with postage paid QSL's out of the question and will be treated as such.

-D. A. McArthur, VK3CK.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL QSL BUREAU

The A.R.R.L. advises the following W/VF QSL Bureau changes, effective immediately:
W3-H, L. Parrish, W3PSB, P.O. Box 9918, El Paso, Texas 79909.
VE2-Jack Havercroft, VE2ZVR, 135 Thorncrest Ave., Dorval, Quebec.
VE2-Karl Tettelaar, VE2AAV, Sub P.O. 55, N. Edmonton, Alberta.
K3YVW, Peter I. Romisch, seeks publicity for a Boy Scout Radio Award just issued. Further info from this Bureau.

An expedition is planned to the State of Delaware for the second week-end in August, to provide this State and the County of Sussex for certificate awards. Operation will commence on Friday, 14th August, at 1700z and will terminate at 0600z on Monday, 17th August.

Following is the band, call and mode schedule:-

- 20 Mc.-K4LQJ/3, 2.84 Mc. a.m. and s.b.
- 31 Mc.-K4LQJ/3, 21.31 Mc. a.m., 21.41 Mc. s.b.
- 14 Mc.-K4GJM/3, 14.3 Mc. a.s.b., 14.045 Mc. c.w.
- 7 Mc.-K4LQJ/3, 7.280 Mc. a.m., 7.210 Mc. s.b., 7.945 Mc. c.w.
- 1.5 Mc.-K4LQJ/3, 1.293 Mc. a.s.b., 1.645 Mc. c.w.

All QSLs to K4LQJ. Further info from this Bureau.

Al Sczerlet, W2CC, who was in VK April/May last year, now plans a further vacation tour June/July to England and Scandinavia. Must be nice to be well heeled!

-Ray Jones, VK3RJ, Manager.

amplifier for h.f. receivers. Thirty-three were present at this meeting and the President reported that the committee had decided to hold an auction sale at the commencement of each meeting in future, members' gear being sold on commission.

The first of these sales took place in May and a small sum was earned for social committee funds and several members went away with bargain purchases. If you have any items which may be useful to other members and which you wish to dispose of, please bring them to the next or any meeting of the Branch stating your reserve price if any. Goods will be sold anonymously if desired and a 5 per cent. handling charge will be made. In any event, the sale will commence at 8 and will conclude at 8.30, whether all the goods are sold or not. So please be early at the next meeting and bring your surplus gear, but no junk.

The newly formed Radio Club at Teralba is now at the next meeting there will be some short cuts to successful 160 mc. working, entitled "Top Band Without Tears" by your scribe. So come along and enjoy the auction sale if nothing else. Remember that it is on Friday, 8th June, in room 18 (or nearby room), Classroom Block, Newcastle Technical College. Please arrive at 7.30. Shall we see you there! I hope so. 7.3. ZAKX.

CENTRAL ZONE

Congratulations to Alec ZAAK on being elected President of the Gosford Radio Club. Reg ZAI continues as Hon. Sec. and Vice-President, including ZEEZ and ZEDZ. The weekly A.O.C.P. class on Wednesday evenings has still 15 stavers, so we are hoping for some new calls during the next 15 months. Alec ZAAK still has regular slots on 144 Mc. with 1VP Canberra. Alec works s.b. and 1VP is completing his s.b. rig. 432 Mc. is also claiming their attention. Alec is first building the tx and Eddie the rx. This path is about 100 miles, so it will be interesting to see how it goes.

Reg ZAI has paid visits to Wagga and St. George, Queensland, recently, being heard clearly on his KWM1. ZAVZ is heard on 80 Mc. and some other bands. ZEDZ and ZALA also nudged the band at times with a phasing-type tx. Ernie ZEX is building some high-gain antennas and about 8.0 p.m. will have to start counting the a.m. exponents soon. Major ZRU is very pleased with his KW2B 40 mc. transceiver which uses one large printed circuit, and two t.v. line output tubes in the final. It should be mobile very soon.

DX is heard now on a Swan three-bander. Looks as if we'll have to conduct classes in the use of the soldering iron, before long! Wally ZAKX is having ERU removing DX from his tx. It seems that all t.v. neighbours are not as helpful as they should be. He will be back on 80 phone very soon. Norm ZAI is in the pink and is helping with the Wednesday classes while John ZND is on three weeks' holiday. Norm has just returned from a holiday in Victoria. Phil ZTK is now Secretary of Wyong Rotary Club. He has moved to a very fine location overlooking Tuggerah Lake and with his ham shack up there so he should hear a good signal. He's supposed to be retired, but there must be a few household chores for him to do. He is able to work Alec on 28 Mc. without any trouble. Our secretary has returned from a busy but interesting holiday in Melbourne. The 145 Mc. net was demonstrated by ZXM. What a fine achievement on the part of the v.h.f. gang down there! 7.3. ZON.

SOUTH WESTERN ZONE

Well chaps the Zone is not as active as it should be and we cannot put the blame on it each evening. Some of you may be saying we are to keep going as a zone or not? If we are to be active and remain active, what are we coming on the Saturday night net for? We would like to hear someone from Ballarat, Geelong and Hamilton on each week. As you are all aware, we have already missed out on a Zone Convention. This is bad.

NEW SOUTH WALES

HUNTER BRANCH

Les Z2BJ was the lecturer at the May meeting of the Branch and he chose as his subject "Receiver Front End Design." Following a very informative lecture concerned mainly with v.h.f. receiver designs. Les answered questions asked by the thirty members present. Even when most of the others had gone home at 11 p.m. Les was still discussing topics of mutual interest with a small group of v.h.f. men. Because of the illness of the lecturer there were three local members who stood in at short notice at the April meeting. They were Len Z2FD and Des Z2ZON, who gave the introductory lecture and demonstration on 432 Mc. equipment, and Keith ZAKX, who spoke on and demonstrated a transistor broad band

Norm Z2NE, who has been transferred by his company to Sydney, has been doing a week-end scramble these past weeks, living part time in Sydney and part time in Newcastle, but he now has a house in the smoke and has moved from our midst. We are sorry to lose Norm who was a keen v.h.f. man. Bill Z2L smashed his magnifying glass the other day and is now unable to see his coloured slides, so he has bought himself a projector to augment the square eye viewing. Paddy ZAXU was so disgusted with the signal he was emanating that he decided to close down altogether. However, after connecting the aerial he was back on the next day. The Terror from the Terrace, Mac Z2MO, has found that the squeaks in the 2 metre transmitter come from a nest of magpies on the bench behind the rig. Lionel ZCS is now firmly established in the DX paradise, Bolton Point, and already has a half wave on 80 mc in addition to other assorted wet strings.

Nothing at all has been heard from Cessnock and it is rumoured that all Chris' boys are busy trying to find a fault in a transistor portable and haven't had the time to come on the air. Alternatively, they are all in hibernation for the winter. Bill ZXT has managed to persuade the transport department to change the XT plates on to the new waggon

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A31.

Norm 3KX is getting going again on 14 Mc. Harry 3AKX is on each week and never misses a week along with Bill SXE and Peter 3FX will be back from their working holiday up in the Northern Territory at Yorkalla Mission. They had the Type 3 KX. II. with them.

The Y.M.C.A. Radio Club is going along nicely at Warranmool. VK3AAW is the call sign. Many thanks to all the local chaps who have along with Bill SXE and members of the W.I.A., and all members intended to join the Institute. The Warranmool Technical College Radio Club is going 3 KX. II. with them. Mr. John Rose. This Club is not linked with the Y.M.C.A. although we are always glad to assist at any time. Eric 3ANX puts a lot of time in helping these boys, which is nice as Eric does not keep the best of health, but still finds a little time to help.

Don 3AKN, Bill SXE and Bill SWK have all taken to this flying business and by now will probably have obtained their licence. Don's XYL has already obtained same. Congratulations.

We are grateful to VK3AAK, Alex Swinton, of Kulnura, N.S.W. for donating some equipment to the Y.M.C.A. Radio Club. This has been sent to Bill Wines as Alex was a native of Warranmool many years ago. Thanks, Alec. T3, Bill Wines, C/o. VK3AAW, Y.M.C.A. Radio Club, Warranmool.

QUEENSLAND

TOWNSVILLE AND DISTRICT

This month I find it hard to glean any news as the bands have not been treating me too kindly. No visitors to pass on anything and my super "private eye" Bert (4B) away down south in the big smoke, having a well earned rest. Hopes to meet up with many of the boys while in the big city.

The Cairns boys are also absent from the air at the moment, so I'm unable to follow in the footsteps of that illustrious writer "Panay" and pad them when the news is scarce. Speaking of him, what he has happened that he writes no more? The salary not high enough in these times? Would certainly like to read of him once again.

Other than my usual contact with Fijl, Norfolk and Sydney, I have nothing worth while to report. So someone call me up sometime and tell me what's doing around the North. T3, Bob 4RW.

— . . . —

TASMANIA

Only two months plus to go to R.D. Contest! (It soon comes around, doesn't it!) So make a note to clean away the spiders and get the rig cleaned up and in good working order. These little jobs that you've been putting off—now is the time to do them, not the Saturday morning of the Contest week-end. Let's make up your minds now to get the Trophy back in VKT this year and you all know how it can get—by work, while heaped anticipation. Write out your log, then post it. Remember only eleven weeks ends to go and they'll soon fly past. Think how fast the last eleven have gone.

I've had a little downcast this last week and it's surprising what one can find out when you start delving. It all started when Tom 7AL, our worthy President, again this year, made a little speech at Snowy's TCH farewell, to the effect that he (Snowy) had had

11 years as Councillor, starting way back in 1930 (years truly was just out of three-covered peas—hardly dry—yet I was so I started to look through the little red book and I found that Tom 7AL is mentioned on Council 11 years, with nine as QSL manager, four as broadcast officer and the last five years as President.

Also noted that Terry TCT has been a Council member since times. Joe YB has been voted in a mere thirteen times, Lon TLJ has represented you for nine seasons. There were other gentlemen whose names I dropped up quite often, Jack T3B, Crosby T3C, Len T3E, Alan TMY, Ken TKA, to mention five others, but what struck me was the regularity with which these names occurred, if not as councillors, then these same work-horses had some other office to look after. Winston Churchill's famous words "Never have I crossed a bridge I've not seen to ring true in VKT land and I've no doubt in other Divisions as well.

The lecture at the May general meeting was a tape recorded commentary by Brian T3BE on colored slides taken during his sojourn in Antarctica. Brian is at present back on the Mainland, but I'm sure if he can be persuaded to talk (and he is a most convincing speaker) a very interesting evening can be had by his audience. Incidentally, our congratulations to Brian, on your recent escape from a twelve months isolation and only memories would do the trick. T3, T3AS.

NORTH WESTERN ZONE

Here we are half way through the year already, what with zone fees due, and all. Not a lot of activity in the zone at the present time, although I believe Kevin T3AR has now collected a nice number of VK3 QSL cards, and Ken T3H has a UA0 XYL to his credit. David T3AS has a de luxe 72 well on the way to completion after a long wait for parts. Be good to hear you back on the air again, David. Associates Winston and Bruce are both awaiting results of the last A.O.C.F. exam and we hope that there will be two more "Z"s on the air soon. T3, T3EH.

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